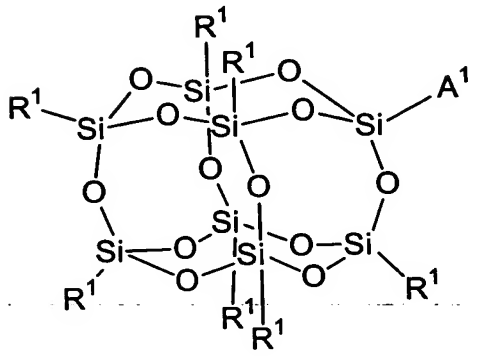
What is claimed is:

1. A silicon compound represented by Formula (1):



(1)

in Formula (1), seven R^1's are groups independently selected respectively from the group consisting of hydrogen, alkyl, substituted or non-substituted aryl and substituted or non-substituted arylalkyl; A^1 is an organic group substituted with a halogenated sulfonyl group; in this alkyl, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O-, -CH=CH-, cycloalkylene or cycloalkenylene; and in alkylene in this arylalkyl, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O- or -CH=CH-.

2. The silicon compound as described in claim 1, wherein seven R^1's in Formula (1) are groups independently selected respectively from the group consisting of hydrogen, alkyl having a carbon number of 1 to 45, substituted or non-substituted aryl and substituted or non-substituted arylalkyl; in this alkyl having a carbon number of 1 to 45, optional

hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O-, -CH=CH-, cycloalkylene or cycloalkenylene; and

in alkylene in this arylalkyl, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O- or -CH=CH-.

3. The silicon compound as described in claim 1, wherein seven R^1's in Formula (1) are groups independently selected respectively from the group consisting of hydrogen and alkyl having a carbon number of 1 to 30; and

in the alkyl having a carbon number of 1 to 30, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O- or cycloalkylene.

4. The silicon compound as described in claim 1, wherein seven R^1's in Formula (1) are groups independently selected respectively from the group consisting of alkenyl having a carbon number of 1 to 20 and a group in which optional $-CH_2-$ is substituted with cycloalkenylene in alkyl having a carbon number of 1 to 20;

in the alkenyl having a carbon number of 1 to 20, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O- or cycloalkylene; and

in the group in which optional $-CH_2-$ is substituted with cycloalkenylene in alkyl having a carbon number of 1 to 20,

optional hydrogen may be substituted with fluorine.

5. The silicon compound as described in claim 1, wherein seven R^1's in Formula (1) are groups independently selected respectively from the group consisting of naphthyl and phenyl in which optional hydrogen may be substituted with halogen or alkyl having a carbon number of 1 to 10;
in this alkyl having a carbon number of 1 to 10, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O-, -CH=CH-, cycloalkylene or phenylene.

6. The silicon compound as described in claim 1, wherein seven R^1's in Formula (1) are groups independently selected respectively from the group consisting of phenylalkyls in which optional hydrogen on a benzene ring may be substituted with halogen or alkyl having a carbon number of 1 to 12;
in this alkyl having a carbon number of 1 to 12, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O-, -CH=CH-, cycloalkylene or phenylene; and
in alkylene in the phenylalkyl, which has a carbon number of 1 to 12, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O- or -CH=CH-.

7. The silicon compound as described in claim 1, wherein

seven R^1's in Formula (1) are groups independently selected respectively from the group consisting of alkyl having a carbon number of 1 to 8, phenyl, non-substituted naphthyl and phenylalkyl;

in the alkyl having 1 to 8 carbon atoms, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O-, -CH=CH-, cycloalkylene or cycloalkenylene;

in the phenyl, optional hydrogen may be substituted with halogen, methyl or methoxy;

in phenyl in the phenylalkyl, optional hydrogen may be substituted with fluorine, alkyl having a carbon number of 1 to 4, ethenyl or methoxy;

in alkylene in the phenylalkyl, it has a carbon number of 1 to 8, and optional $-CH_2-$ may be substituted with -O- or -CH=CH-.

8. The silicon compound as described in claim 1, wherein seven R^1's in Formula (1) are one group selected from the group consisting of alkyl having a carbon number of 1 to 8, phenyl, non-substituted naphthyl and phenylalkyl;

in the alkyl having a carbon number of 1 to 8, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O-, -CH=CH-, cycloalkylene or cycloalkenylene;

in the phenyl, optional hydrogen may be substituted with halogen, methyl or methoxy;

in phenyl in the phenylalkyl, optional hydrogen may be substituted with fluorine, alkyl having a carbon number of 1 to 4, ethenyl or methoxy;
in alkylene in the phenylalkyl, it has a carbon number of 1 to 8, and optional $-CH_2-$ may be substituted with -O- or -CH=CH-.

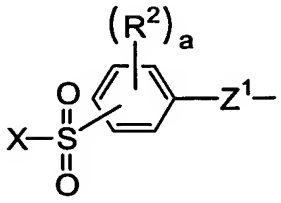
9. The silicon compound as described in claim 1, wherein seven R^1's in Formula (1) are one group selected from the group consisting of phenyl, naphthyl and phenylalkyl;
in the phenyl, optional hydrogen may be substituted with halogen, methyl or methoxy;
in phenyl in the phenylalkyl, optional hydrogen may be substituted with fluorine, alkyl having a carbon number of 1 to 4, ethenyl or methoxy;
in alkylene in the phenylalkyl, it has a carbon number of 1 to 8, and optional $-CH_2-$ may be substituted with -O-.

10. The silicon compound as described in claim 1, wherein seven R^1's in Formula (1) are ethyl, 2-methylpropyl, 2,4,4-trimethylpentyl, 3,3,3-trifluoropropyl, cyclopentyl, cyclohexyl or non-substituted phenyl.

11. The silicon compound as described in claim 1, wherein seven R^1's in Formula (1) are non-substituted phenyl.

12. The silicon compound as described in any of claims 1 to

11, wherein A^1 in Formula (1) described in claim 1 is a group represented by Formula (2):



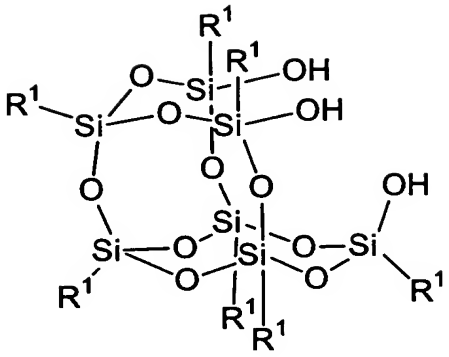
(2)

in Formula (2), X is halogen; R^2 is alkyl having a carbon number of 1 to 3; a is an integer of 0 to 2; Z^1 is a single bond or alkylene having a carbon number of 1 to 10; in this alkylene having a carbon number of 1 to 10, optional $-CH_2-$ may be substituted with -O-, -COO- or -OCO-; and both of the bonding positions of halogenated sulfonyl and R^2 on a benzene ring are optional positions.

13. The silicon compound as described in claim 12, wherein Z^1 in Formula (2) is $Z^2-C_2H_4-$; Z^2 is a single bond or alkylene having a carbon number of 1 to 8, and optional $-CH_2-$ in this alkylene may be substituted with -O-, -COO- or -OCO-.

14. The silicon compound as described in claim 12, wherein in Formula (2), Z^1 is $-C_2H_4-$; X is chlorine or bromine; and a is 0.

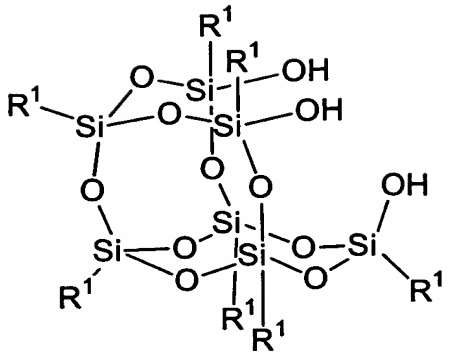
15. A production process for the silicon compound represented by Formula (1) as described in claim 1, characterized by reacting a compound represented by Formula (3) with trichlorosilane having a halogenated sulfonyl group:



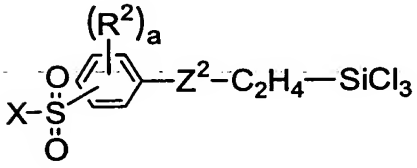
(3)

in Formula (3), seven R^1's are groups independently selected respectively from the group consisting of hydrogen, alkyl, substituted or non-substituted aryl and substituted or non-substituted arylalkyl; in this alkyl, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O-, -CH=CH-, cycloalkylene or cycloalkenylene; and in alkylene in the arylalkyl, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O- or -CH=CH-.

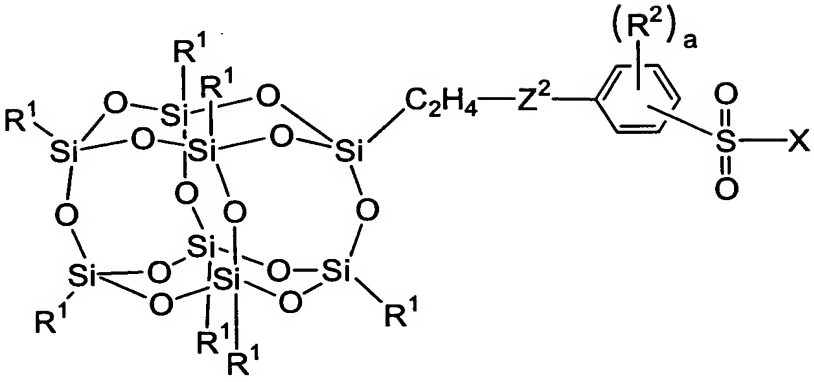
16. A production process for a silicon compound represented by Formula (5), characterized by reacting a compound represented by Formula (3) with a compound represented by Formula (4):



(3)



(4)



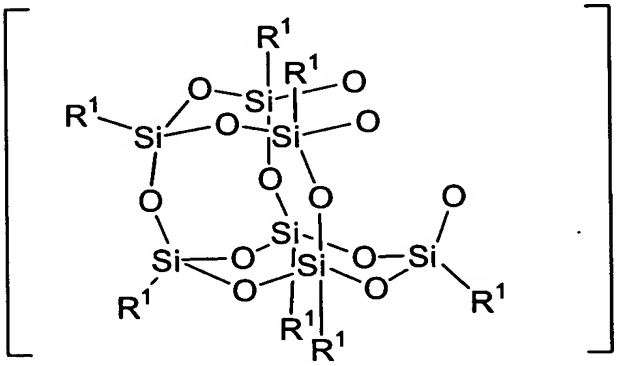
(5)

wherein R^1 in Formula (3) is one group selected from the group consisting of alkyl having a carbon number of 1 to 8, phenyl, non-substituted naphthyl and phenylalkyl; in the alkyl having a carbon number of 1 to 8, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O-, -CH=CH-, cycloalkylene or cycloalkenylene; optional hydrogen in the phenyl may be substituted with halogen, methyl or methoxy; in the phenylalkyl, optional hydrogen on a benzene ring may be

substituted with fluorine, alkyl having a carbon number of 1 to 4, ethenyl or methoxy, and optional $-CH_2-$ in alkylene may be substituted with -O-; R^1 in Formula (5) has the same meaning as that of R^1 in Formula (3);

in Formula (4), X is halogen; R^2 is alkyl having a carbon number of 1 to 3; a is an integer of 0 to 2; Z^2 is a single bond or alkylene having 1 to 8 carbon atoms; in this alkylene having a carbon number of 1 to 8, optional $-CH_2-$ may be substituted with -O-, -COO- or -OCO-; both of the bonding positions of halogenated sulfonyl and R^2 on a benzene ring are optional positions; and the meanings of X, R^2, and Z^2 in Formula (5) and the bonding positions of halogenated sulfonyl and R^2 on a benzene ring are the same as those in Formula (4).

17. A production process for the silicon compound represented by Formula (1) as described in claim 1, characterized by reacting a compound represented by Formula (6) with trichlorosilane having a halogenated sulfonyl group:

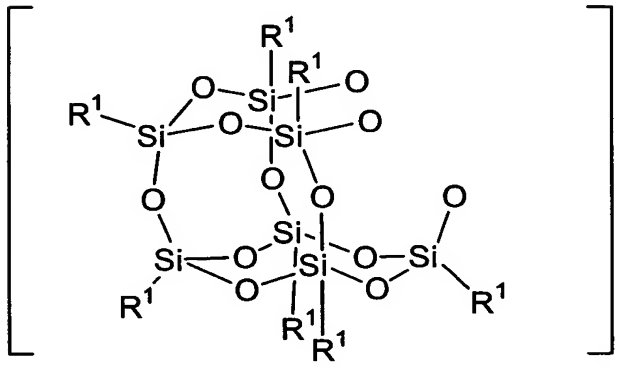


·3M (6)

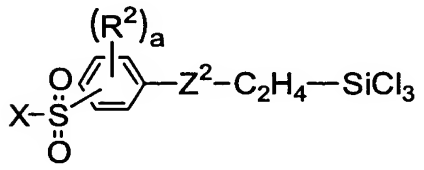
in Formula (6), seven R^1's are groups independently selected

respectively from the group consisting of hydrogen, alkyl, substituted or non-substituted aryl and substituted or non-substituted arylalkyl; M is a monovalent alkali metal atom; in this alkyl, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O-, -CH=CH-, cycloalkylene or cycloalkenylene; and in alkylene in this arylalkyl, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O- or -CH=CH-.

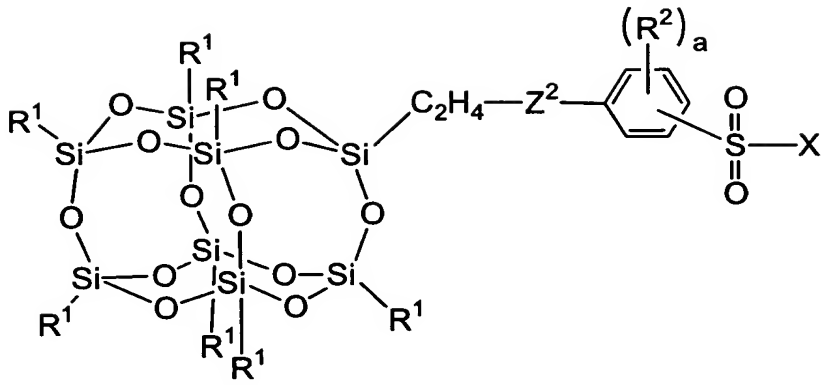
18. A production process for a silicon compound represented by Formula (5), characterized by reacting a compound represented by Formula (6) with a compound represented by Formula (4):



·3M (6)



(4)



(5)

in Formula (6), R^1 is one group selected from the group consisting of alkyl having a carbon number of 1 to 8, phenyl, non-substituted naphthyl and phenylalkyl; M is a monovalent alkali metal atom; in the alkyl having a carbon number of 1 to 8, optional hydrogen may be substituted with fluorine, and optional $-CH_2-$ may be substituted with -O-, -CH=CH-, cycloalkylene or cycloalkenylene; optional hydrogen in the phenyl may be substituted with halogen, methyl or methoxy; in the phenylalkyl, optional hydrogen on a benzene ring may be substituted with fluorine, alkyl having 1 to 4 carbon atoms, ethenyl or methoxy, and optional $-CH_2-$ in alkylene may be substituted with -O-;

R^1 in Formula (5) has the same meaning as that of R^1 in Formula (6);

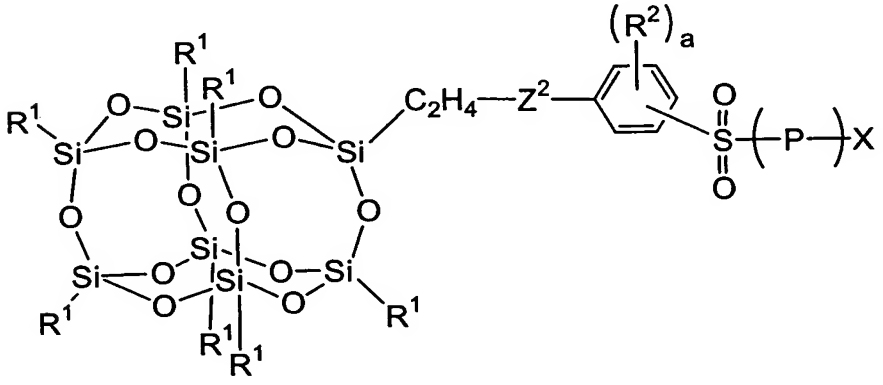
in Formula (4), X is halogen; R^2 is alkyl having 1 to 3 carbon atoms; a is an integer of 0 to 2; Z^2 is a single bond or alkylene having a carbon number of 1 to 8; in the alkylene having a carbon number of 1 to 8, optional $-CH_2-$ may be substituted with -O-, -COO- or -OCO-; both of the bonding positions of halogenated sulfonyl and R^2 on a benzene ring are

optional positions; and

the meanings of X, R^2, and Z^2 in Formula (5) and the bonding positions of halogenated sulfonyl and R^2 on a benzene ring are the same as those in Formula (4).

19. A polymer obtained by polymerizing a vinyl base monomer using the silicon compound represented by Formula (1) as described in claim 1 as an initiator and a transition metal complex as a catalyst.

20. A polymer represented by Formula (7) obtained by polymerizing a vinyl base monomer using the silicon compound represented by Formula (1) as described in claim 18 as an initiator and a transition metal complex as a catalyst:



(7)

the meanings of R^1, Z^2, R^2, a and X in Formula (7) and the bonding positions of halogenated sulfonyl and R^2 on a benzene ring are the same as those in Formula (6) as described in claim 18, and P is a vinyl base polymer.

21. The polymer as described in claim 19 or 20, wherein the vinyl base monomer is at least one selected from the group consisting of a (meth)acrylic acid derivative and a styrene derivative.

22. The polymer as described in claim 19 or 20, wherein the vinyl base monomer is at least one selected from the group consisting of the (meth)acrylic acid derivatives.

23. A polymerization process for a vinyl base monomer characterized by using the silicon compound represented by Formula (1) as described in claim 1 as an initiator and using a transition metal complex as a catalyst.

24. A production process for the polymer represented by Formula (7) as described in claim 20, characterized by polymerizing a vinyl base monomer using the compound represented by Formula (5) as described in claim 18 as an initiator and using a transition metal complex as a catalyst.